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MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			REDDIG, PETER J	
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			1642	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,080

Applicant(s)

GERRITSEN ET AL.

Examiner

Peter J. Reddig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) See Continuation Sheet are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Continuation of Disposition of Claims: Claims pending in the application are 1-9, 11, 15, 16, 18-26, 32-39, 60, 65, 68, 70, 74, 75, 79-81, 85, 86, 90, 91, 93, 95, 98, 100 and 104-106.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-9, 11, 15, 16, 18-23, and 60, 65, 68, and 70 drawn to an isolated nucleic acid molecule that comprises a nucleotide sequence having at least about 80% identity to a nucleotide sequence encoding a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide and as drawn to a composition comprising an antisense antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide, classified in class 536, subclass 23.1.

(Upon election of Group I, applicant must further choose ONE nucleic acid molecule SEQ ID NO: from Claim 2, as each nucleic acid molecule represents an independent invention, not a species)

Claims 1-9, 11, 15, 16, 18-23, and 60, 65, 68, and 70 will be examined as drawn to the elected invention.

- II. Claims 24-27, 32-35, 60, and 68, drawn to an isolated PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide and as drawn to a composition comprising an isolated PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide classified in class 530, subclass 350.

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(Upon election of Group II, applicant must further choose ONE polypeptide SEQ ID NO. from Claim 24: as each polypeptide represents an independent invention, not a species.)

Claims 24-27, 32-35, 60, and 68 will be examined as drawn to the elected invention.

- III. Claims 36-39, 60, 65, 68, and 70, drawn to an antibody which specifically binds to PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide and as drawn to a composition comprising an antibody to PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide, classified in class 530, subclass 387.1.

(Upon election of Group III, applicant must further choose ONE polypeptide from Claim 36: as each polypeptide represents an independent invention, not a species.)

- IV. Claims 60 and 68, drawn to a composition comprising an agonist to PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide other than an antibody, PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptides, an antisense molecule, or an antigene, classified in class 514, subclass 1.

(Upon election of Group IV, applicant must further choose ONE polypeptide from Claim 60: as each polypeptide represents an independent invention, not a species.)

- V. Claims 60 and 68, drawn to a composition an antagonist to PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64, or PRO-C-MG.72 polypeptide other than an antibody, PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64,

or PRO-C-MG.72 polypeptides, an antisense molecule, or an antigen, classified in class 514, subclass 1.

(Upon election of Group V, applicant must further choose ONE polypeptide from Claim 60: as each polypeptide represents an independent invention, not a species.)

- VI. Claim 74, drawn to a method for identifying a compound that inhibits an activity of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide comprising contacting a test compound with a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide under conditions and for a time sufficient to allow the test compound and polypeptide to interact and determining whether the activity of said PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide is inhibited, classified in class 435, subclass 4.

(Upon election of Group VI, applicant must further choose ONE polypeptide from Claim 74: as each polypeptide represents an independent invention, not a species.)

- VII. Claim 75, drawn to a method for identifying a compound that inhibits the expression of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide or gene in cells that normally expresses the polypeptide, wherein the method comprises contacting the cells with a test compound under conditions suitable for allowing expression of said PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide and determining whether the expression of the PRO-C-MG.2, PRO-

C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide or gene is inhibited, classified in class 435, subclass 4.

(Upon election of Group VII, applicant must further choose ONE polypeptide from Claim 75: as each polypeptide represents an independent invention, not a species.)

- VIII. Claim 79-81, drawn to a method of diagnosing a cardiovascular disorder in a mammal which comprises analyzing the level of expression of a gene expression, encoding a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide (a) in a test sample of tissue cells obtained from said mammal, and (b) in a control sample of known normal tissue cells of the same cell type, wherein a higher or lower expression level in the test sample as compared to the control sample is indicative of the presence of a cardiovascular disorder in said mammal, classified in class 435, subclass 6.

(Upon election of Group VIII, applicant must further choose ONE gene encoding a polypeptide from Claim 79: as each gene represents an independent invention, not a species.)

- XIX. Claims 79-81, drawn to a method of diagnosing an endothelial disorder in a mammal which comprises analyzing the level of expression of a gene encoding a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide (a) in a test sample of tissue cells obtained from said mammal, and (b) in a control sample of known normal tissue cells of the same cell type, wherein a higher or lower expression level in the test sample as compared to the control sample is indicative of the presence of an angiogenic disorder in said mammal, classified in class 435, subclass 7.1.

(Upon election of Group XIX, applicant must further choose ONE polypeptide from Claim 79: as each polypeptide represents an independent invention, not a species.)

- X. Claim 79-81, drawn to a method of diagnosing an angiogenic disorder in a mammal which comprises analyzing the level of expression of a gene encoding a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide (a) in a test sample of tissue cells obtained from said mammal, and (b) in a control sample of known normal tissue cells of the same cell type, wherein a higher or lower expression level in the test sample as compared to the control sample is indicative of the presence of an endothelial disorder in said mammal, classified in class 435, subclass 6.

(Upon election of Group X, applicant must further choose ONE gene encoding a polypeptide from Claim 79: as each gene represents an independent invention, not a species.)

- XI. Claims 85, 86, 90, and 104-106 drawn to method for treating a cardiovascular disorder in a mammal comprising administering to the mammal a therapeutically effective amount of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 2.

(Upon election of Group XI applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XII. Claims 85, 86, 90, and 104-106 drawn to method for treating a cardiovascular disorder in a mammal comprising administering to the mammal a therapeutically effective amount of an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-

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MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 1.

(Upon election of Group XII applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XIII. Claims 85, 86, 90 and 104-106, drawn to method for treating a cardiovascular disorder in a mammal comprising administering a therapeutically effective amount of an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 2.

(Upon election of Group XIII applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XIV. Claims 85, 86, 90 and 104-106, drawn to method for treating a endothelial disorder in a mammal comprising administering to the mammal a therapeutically effective amount of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 2.

(Upon election of Group XIV applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XV. Claims 85, 86, 90 and 104-106, drawn to method for treating an endothelial disorder in a mammal comprising administering to the mammal a therapeutically effective amount of an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 1.

(Upon election of Group XV applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XVI. Claims 85, 86, 90 and 104-106, drawn to method for treating an endothelial disorder in a mammal comprising administering to the mammal a therapeutically effective amount of an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 1.

(Upon election of Group XVI applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XVII. Claims 85, 86, 90 and 104-106, drawn to method for treating an angiogenic disorder in a mammal comprising administering to the mammal a therapeutically effective amount of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 2.

(Upon election of Group XVII applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XVIII. Claims 85, 86, 90 and 104-106, drawn to method for treating an angiogenic disorder in a mammal comprising administering to the mammal a therapeutically effective amount of an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 1.

(Upon election of Group XVIII applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XIX. Claims 85, 86, 90 and 104-106, drawn to method for treating an angiogenic disorder in a mammal comprising administering to the mammal a therapeutically effective amount of an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 2.

(Upon election of Group XIX applicant must further choose ONE polypeptide from Claim 85: as each polypeptide represents an independent invention, not a species.)

- XX. Claims 91, 93 and 95, 104-106 drawn to a method for treating a cardiovascular disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XX applicant must further choose ONE nucleic acid that encodes one of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

- XXI. Claims 91, 93 and 95, 104-106 drawn to a method for treating a cardiovascular disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXI applicant must further choose ONE nucleic acid that encodes an agonist of ONE of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXII. Claims 91, 93 and 95, 104-106 drawn to a method for treating a cardiovascular disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXII applicant must further choose ONE nucleic acid that encodes an antagonist of ONE of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXIII. Claims 91, 93 and 95, 104-106 drawn to a method for treating an endothelial disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXIII applicant must further choose ONE nucleic acid that encodes one of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXIV. Claims 91, 93 and 95, 104-106 drawn to a method for treating an endothelial disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXIV applicant must further choose ONE nucleic acid that encodes an agonist of ONE of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXV. Claims 91, 93 and 95, 104-106 drawn to a method for treating an endothelial disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXV applicant must further choose ONE nucleic acid that encodes an antagonist of ONE of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXVI. Claims 91, 93 and 95, 104-106 drawn to a method for treating an angiogenic disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXVI applicant must further choose ONE nucleic acid that encodes one of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXVII. Claims 91, 93 and 95, 104-106 drawn to a method for treating an angiogenic disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXVII applicant must further choose ONE nucleic acid that encodes an agonist of ONE of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXVIII. Claims 91, 93 and 95, 104-106 drawn to a method for treating an angiogenic disorder in a mammal comprising administering to the mammal a nucleic acid molecule that encodes an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, classified in class 514, subclass 44.

(Upon election of Group XXVIII applicant must further choose ONE nucleic acid that encodes an antagonist of ONE of the PRO-C polypeptides from Claim 91: as each polypeptide represents an independent invention, not a species.)

XXIX. Claim 98 drawn to a method for modulating endothelial cell growth in a mammal comprising administering to the mammal an effective amount of an anti-PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 antibody, wherein endothelial cell growth in said mammal is inhibited, classified in class 424, subclass 130.1.

(Upon election of Group XXIX applicant must further choose ONE polypeptide from Claim 98: as each polypeptide represents an independent invention, not a species.)

XXX. Claims 98 and 100, drawn to a method for modulating endothelial cell growth in a mammal and modulating angiogenesis in a mammal comprising administering to the mammal an effective amount of (a) PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, wherein endothelial cell growth in said mammal is inhibited, classified in class 514, subclass 2.

(Upon election of Group XXX applicant must further choose ONE polypeptide from Claim 98: as each polypeptide represents an independent invention, not a species.)

XXXI. Claims 98 and 100, drawn to a method for modulating endothelial cell growth in a mammal and modulating angiogenesis in a mammal comprising administering to the mammal an effective amount of an agonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, wherein endothelial cell growth in said mammal is inhibited, classified in class 514, subclass 1.

(Upon election of Group XXXI applicant must further choose ONE polypeptide from Claim 98: as each polypeptide represents an independent invention, not a species.)

XXXII. Claims 98 and 100, drawn to a method for modulating endothelial cell growth in a mammal and modulating angiogenesis comprising administering to the mammal an effective amount of an antagonist of a PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptide, wherein endothelial cell growth in said mammal is inhibited, classified in class 514, subclass 2.

(Upon election of Group XXXII applicant must further choose ONE polypeptide from Claim 98: as each polypeptide represents an independent invention, not a species.)

2. It is further noted for Applicant's convenience, that the above elections of ONE PRO-C polypeptide, PRO-C nucleic acid, or agonist or antagonist thereof is a requirement for the election of a Group for examination NOT a requirement for an election of species because although the claims are presented in Markush format, the claims are drawn to agents or methods using multiple agents which do not share, as a whole, a substantial structural feature disclosed as

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being essential to their utility. Thus, the analysis of the claims, for restriction purposes, is subject to the findings of the court wherein the court found that unity of invention exists where entities included within a Markush group share a substantial structural feature disclosed as being essential to utility of the invention, *In re Harnisch*, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984). Since the members of the group do not share a substantial structural feature disclosed as being essential to utility of the invention, the group as claimed fails the Harnisch test and the claims are not accorded Markush restriction practice because they do not meet the requirements to be accorded Markush practice under MPEE 803.02.

The inventions are distinct, each from the other because of the following reasons:

3. The nucleic acid molecule of Invention I is related to the protein of Invention II by virtue of the fact that the nucleic acid molecule codes for the protein. The nucleic acid molecule has utility for the recombinant production of the protein in a host cell. Although the nucleic acid molecule and the protein are related, since the nucleic acid molecule encodes the specifically claimed protein, they are distinct inventions because the protein product can be made by other and materially distinct processes, such as purification from the natural source. Further, nucleic acid molecule can be used for processes other than the production of protein, such as nucleic acid hybridization assays.

Furthermore, searching the inventions of Groups I and II together would impose a serious search burden. In the instant case, the search of the polypeptides and polynucleotides are not coextensive. The inventions of Groups I and II have a separate status in the art as shown by their different classifications. In cases such as this one where descriptive sequence information is

provided, the sequences are searched in appropriate database. There is search burden also in the non-patent literature. Prior to the concomitant isolation and expression of the sequences of interest there may be journal articles devoted solely to polypeptides, which would not have described the polynucleotide. Similarly, there may have been “classical” genetics papers, which had no knowledge of the polypeptide but spoke to the gene. Searching, therefore is not coextensive. In addition, the claims include 10 distinct sequences inclusive of various complements and fragments. This search requires an extensive analysis of the art retrieved in a sequence search and will require an in-depth analysis of technical literature. As such, it would be burdensome to search the inventions of Groups I and II.

4. The polypeptide of Group II and the antibody of Group III are patentably distinct for the following reasons:

While the inventions of both Group II and Group III are polypeptides, in this instance the polypeptides of Group II represent whose gene expression is modulated in cells undergoing angiogenesis and/or vascularization, whereas the polypeptide of Group III encompasses antibodies including IgG which comprises 2 heavy and 2 light chains containing constant and variable regions, and including framework regions which act as a scaffold for the 6 complementarily determining regions (CDR) that function to bind an epitope. Thus the polypeptides of Group II and the antibodies of Group III are structurally distinct molecules; any relationship between a polypeptide of Group II and an antibody of Group III is dependent upon the correlation between the scope of the polypeptides that the antibody binds and the scope of the antibodies that would be generated upon immunization with the polypeptide.

In this case, the polypeptides of group II encompass large molecules which contain potentially hundreds of regions to which an antibody may bind, whereas the antibody of Group III is defined in terms of its binding specificity to a small structure within the sequences encompassed by SEQ ID NOs: 2, 4, 14, 16, or 18. Furthermore, searching the inventions of Group II and Group III would impose a serious search burden. The inventions have separate status in the art as shown by their different classifications. A polypeptide and an antibody that binds to the polypeptide require different searches. An amino acid sequence search of the full-length protein is necessary for a determination of novelty and unobviousness of the protein. However, such a search is not required to identify the antibodies of Group III. Furthermore, antibodies that bind to an epitope of a polypeptide of Group II may be known even if a polypeptide of Group II is novel. In addition, the technical literature search for the polypeptides of Group II and the antibody of Group III are not coextensive, e.g., antibodies may be characterized in the technical literature prior to discovery of or sequence of their binding target.

5. The polynucleotide of Group I and the antibody of Group III are patentably distinct for the following reasons:

The antibody of Group III includes, for example, IgG molecules which comprise 2 heavy and 2 light chains containing constant and variable regions, and including framework regions which act as a scaffold for the 6 complementarily determining regions (CDRs). Polypeptides, such as the antibody of Group III which are composed of amino acids, and polynucleotides, which are composed of nucleic acids, are structurally distinct molecules; any relationship between a polynucleotide and polypeptide is dependent upon the information provided by nucleic acid sequence open reading frame as it corresponds to the primary amino acid sequence

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of the encoded polypeptide. In the present claims, a polynucleotide of Group I will not encode an antibody of Group III, and the antibody of Group III cannot be encoded by a polynucleotide of Group I. Therefore, the antibody and polynucleotide are patentably distinct.

The antibody and polynucleotide inventions have a separate status in the art as shown by their different classifications. Furthermore, searching the inventions of Group I and Group III would impose a serious search burden since a search of the polynucleotides of Group I would not be used to determine the patentability of any antibody of Group III, and vice-versa.

6. Invention I and Inventions IV-VI, XI-XIX, XXI, XXII, XXIV, XXV, and XXVII-XXXII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the polynucleotides of Invention I are not required for the objectives or in the method steps of Inventions VI, XI-XIX, XXI, XXII, XXIV, XXV, and XXVII-XXXII as these are not drawn to the use of the use of nucleic acid molecules of Invention I. The polynucleotides of Invention I are unrelated to the agonists and antagonists of Inventions IV and V in that they structurally unrelated to the agonists or antagonists of Inventions IV and V nor do they encode the agonists or antagonists of Inventions IV and V.

7. Invention I and Inventions VII-X, XIX, XXIII, and XXVI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the nucleic acid molecules of Invention I can be used for nucleic acid hybridization probes.

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8. Invention II and Inventions VI-XI, XIV, XVII, XXX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the polypeptides of Invention II could be used to generate antibodies.

9. Inventions II and Inventions IV, V, XII, XIII, XV, XVI, XVIII-XXIX, XXXI, and XXXII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different polypeptides of Invention II are not required and not capable of being used in the methods of Inventions XII, XIII, XV, XVI, XVIII-XXIX, XXXI, and XXXII because these methods are drawn to using different products than the polypeptides of Invention II. The polypeptide of Invention II are unrelated to the agonists and antagonists of Inventions IV and V in that they are structurally unrelated to the agonists or antagonists of Inventions IV and V nor do they function the same as the agonists or antagonists of Inventions IV and V.

10. Invention III and Inventions VI-X, XIII, XVI, XIX, XXIX, and XXXII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the antibodies of Invention III could be used for immunoaffinity chromatography.

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11. Inventions III and Inventions IV, V, XII, XII, XIV, XV, XVII, XIX, XX-XXVIII, XXX, and XXXI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different polypeptides of Invention II are not required and not capable of being used in the methods of Inventions XII, XII, XIV, XV, XVII, XIX, XX-XXVIII, XXX, and XXXI are unrelated because theses methods are drawn to using different products than the antibodies of Invention III. The antibodies of Invention III are unrelated to the agonists and antagonists of Inventions IV and V in that they are structurally unrelated to the agonists or antagonists of Inventions IV and V nor do they function the same as the agonists or antagonists of Inventions IV and V.

12. Inventions IV and V are directed to related products. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j).

In the instant case, Inventions IV and V are related in that they both are products that modulate the function of PRO-C gene products. Inventions IV and V are distinct in that the products of Invention IV act as agonists of PRO-C gene products and the products of Invention V antagonize PRO-C gene products. Thus Inventions IV and V have distinct functions and effects.

13. Inventions IV and VI-XI, XIII, XIV, XVI, XVII, XIX-XXX and XXXII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together

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and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06).

In the instant case, the products Inventions IV are not required for the performance of the methods of VI-XI, XIII, XIV, XVI, XVII, XIX-XXX and XXXII.

14. Invention IV and Inventions XII, XV, XVIII, and XXXI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the agonist of Invention IV could be used in a screen of agonists for other proteins.

15. Inventions V and VI-XII, XIV, XV, XVII, XVIII, and XX-XXXI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the products of Inventions V are not required for the performance of the methods of VI-XII, XIV, XV, XVII, XVIII, and XX-XXXI

16. Invention V and Inventions XIII, XVI, XIX, and XXXII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the agonist of Invention V could be used in a screen of antagonists for other proteins.

17. Inventions VI and VII are directed to related methods. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions

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as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j).

In the instant case, Inventions VI and VII are related in that they both are methods of identifying compounds that inhibit the PRO-C gene products. The methods are distinct in that Invention VI is a method for identifying compounds that inhibit PRO-C protein activity and Invention VII is a method for identifying compounds that inhibit PRO-C gene expression.

18. Inventions VI and VII and Inventions VIII-XXXII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different method steps of Inventions VI and VII are not required for the performance of the methods of VIII-XXXII. Additionally, Inventions VI and VII have objectives that are unrelated to the objectives of VIII-XXXII.

19. Inventions VIII-X are directed to related methods. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j).

In the instant case, the methods of Inventions VIII-X are related in that they are methods of diagnosis using the PRO-C gene products. The methods are distinct in that they are directed to diagnosing patentably distinct disease states.

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21. Inventions VIII-X and Inventions XIX-XXXII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions the method steps of Inventions VIII-X are not required for the performance of the methods of XIX-XXXII. Additionally, Inventions VIII-X have objectives that are unrelated to the objectives of XIX-XXXII.

22. Inventions XIX-XXXII are directed to related methods. The related inventions are distinct if the inventions as claimed do not overlap in scope, i.e., are mutually exclusive; the inventions as claimed are not obvious variants; and the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect. See MPEP § 806.05(j).

In the instant case, the methods of Inventions XIX-XXXII are related in that they are methods of treating disease that are associated with PRO-C gene products. The methods are distinct each from the other in that they are directed to treating patentably distinct disease states with patentably distinct therapeutics related to PRO-C gene products.

23. Furthermore, searching all of the inventions of Groups I-XXXII would invoke a burdensome search. Some of the inventions have been classified separately. Thus, each of these inventions has attained recognition in the art as a separate subject for inventive effort, and also a separate field of search. Although some of the inventions are classified similarly, classification of subject matter is merely one indication of the burdensome nature of the search involved. The literature search, particularly relevant in this art, is not coextensive and is much more important in evaluating the burden of search.

Because these inventions are independent or distinct for the reasons given above restriction for examination purposes as indicated is proper.

24. Species Elections for Group I

A. Claim 1 is generic to the following disclosed patentably distinct species of host cell:

- 1) CHO cell
- 2) *E. coli*
- 3) yeast cell

B. Claim 60 is generic to the following disclosed patentably distinct species of antagonist:

- 1) antisense molecule
- 2) Not an antisense molecule

It is noted that upon election of Group I claim 68 will be examined as drawn to an antisense molecule.

25. Species Elections for Group II

A. Claim 32 is generic to the following disclosed patentably distinct species of heterologous amino acid sequence:

- 1) an epitope tag sequence
- 2) secretion signal peptide
- 3) Fc region of an immunoglobulin

26. Species Elections for Group III

A. Claim 36 is generic to the following disclosed patentably distinct species of antibody:

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- 1) the antibody is an antagonist
- 2) the antibody is NOT an antagonist

27. Species Elections for Group IV

A. Claim 60 is generic to the following disclosed patentably distinct species of agonist:

- 1) fragments or amino acid sequence variants of the ELECTED native PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptides, as contemplated in the specification
- 2) peptides, as contemplated in the specification
- 3) small organic molecules, as contemplated in the specification

27. Species Elections for Group V

A. Claim 60 is generic to the following disclosed patentably distinct species of antagonist:

- 1) fragments or amino acid sequence variants of the ELECTED native PRO-C-MG.2, PRO-C-MG.12, PRO-C-MG.45, PRO-C-MG.64 or PRO-C-MG.72 polypeptides, as contemplated in the specification
- 2) peptides, as contemplated in the specification
- 3) small organic molecules,

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28. Species Elections for Group VI

A. Claim 74 is generic to the following disclosed patentably distinct species of location for contacting a test compound with a PRO-C polypeptide:

1) *in vivo*

2) *in vitro*

29. Species Elections for Group VII

A. Claim 75 is generic to the following disclosed patentably distinct species of location for contacting a test compound with cells:

1) *in vivo*

2) *in vitro*

B. Claim 75 is generic to the following disclosed patentably distinct species of PRO-C expression inhibited:

1) polypeptide expression

2) mRNA expression

30. Species Elections for Groups VIII-X

A. Claim 79 is generic to the following disclosed patentably distinct species of PRO-C gene expression:

1) polypeptide expression

2) mRNA expression

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31. Species Elections for Groups XI-XIX

A. Claim 85 is generic to the following disclosed patentably distinct species of disorder:

- 1) vascular trauma
- 2) cancer
- 3) rheumatoid arthritis
- 4) psoriasis
- 5) atherosclerosis
- 6) retionpathy
- 7) retrolental fibroplasias
- 8) neovascular glaucoma
- 9) age-related macular degeneration
- 10) thyroid hyperplasias
- 11) Grave's disease
- 12) tissue transplantation
- 13) chronic inflammation
- 14) lung inflammation
- 15) obesity

B. Claim 85 is generic to the following disclosed patentably distinct species of antagonist:

- 1) antibody
- 2) antigene

If applicant elects “cancer” from group A, then applicant must elect a species from group C.

C. Claim 104 is generic to the following disclosed patentably distinct species of treating a tumor:

- 1) reducing the size of a tumor
- 2) reducing the vasculature supporting a tumor
- 3) reducing the tumor burden of a mammal

It is noted that claim 104 will only be examined as drawn to the elected invention.

32. Species Elections for Groups XX-XXVIII

A. Claim 91 is generic to the following disclosed patentably distinct species of disorder:

- 1) vascular trauma
- 2) cancer
- 3) rheumatoid arthritis
- 4) psoriasis
- 5) atherosclerosis
- 6) retionpathy
- 7) retrolental fibroplasias
- 8) neovascular glaucoma
- 9) age-related macular degeneration
- 10) thyroid hyperplasias
- 11) Grave’s disease

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12) tissue transplantation

13) chronic inflammation

14) lung inflammation

15) obesity

B. Claim 91 is generic to the following disclosed patentably distinct species of antagonist:

1) antibody

2) antigene

If applicant elects "cancer" from group A, then applicant must elect a species from group C.

C. Claim 104 is generic to the following disclosed patentably distinct species of treating a tumor:

1) reducing the size of a tumor

2) reducing the vasculature supporting a tumor

3) reducing the tumor burden of a mammal

Claim 104 will only be examined as drawn to the elected invention.

33. Species Elections for Groups XXX-XXXII

A. Claim 100 is generic to the following disclosed patentably distinct species of location for modulating angiogenesis:

1) *in vivo*

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2) *in vitro*

34. The above species are independent or distinct because they comprise structurally distinct molecules and have different modes of operation and different effects. Further, each species would require different searches and the consideration of different patentability issues.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from each of group of the species groups A, B, and C. for the elected Invention even though this requirement is traversed. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 of the other invention.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

35. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found

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allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained.

Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

36. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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37. Applicant is advised that the reply to this restriction requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Reddig whose telephone number is (571) 272-9031. The examiner can normally be reached on M-F 8:30 a.m.-5:00 p.m..

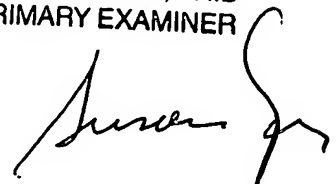
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Siew can be reached on (571) 272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter J. Reddig, Ph.D.
Examiner
Art Unit 1642

PJR

SUSAN UNGAR, PH.D.
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Susan Ungar', is written over the printed name and title of the Primary Examiner.